

Title:

The Fire Resistance Performance
of a Timber Sliding Pocket
Doorset

Report No:

WF No. 535329 Issue 1

Prepared for:

**S.A. HERRAJES DE
CORREDERA (SAHECO)**

Ellmunt 104
P-I La Foradada
08580
St.Quirze de Besora
Barcelona
Spain

Date:

23rd October 2023

TABLE OF CONTENTS

SECTION	PAGE
FOREWORD	3
EXECUTIVE SUMMARY	4
INTRODUCTION.....	5
ASSUMPTIONS.....	5
PROPOSALS	5
BASIC TEST EVIDENCE	7
ASSESSED PERFORMANCE.....	7
CONCLUSIONS.....	10
VALIDITY.....	11
SUMMARY OF PRIMARY SUPPORTING DATA.....	12
LIMITATIONS	14
SIGNATORIES.....	15
REVISION HISTORY	16

Foreword

This assessment report has been commissioned by S.A. HERRAJES DE CORREDERA (SAHECO) and relates to the fire resistance of timber sliding pocket doorsets.

The report is for National Application and has been written in accordance with the general principles outlined in BS EN 15725: 2010; *Extended application reports on the fire performance of construction products and building elements*.

This report uses established empirical methods of extrapolation and experience of fire testing similar assemblies, in order to extend the scope of application by determining the limits for the designs based on the tested constructions and performances obtained. The scope is an evaluation of the potential fire resistance performance, if the variations specified herein were to be tested in accordance with EN 1634-1:2014+ A1:2018.

This assessment has been written using appropriate test evidence generated at an appropriately accredited laboratory to the relevant test standard. The supporting test evidence has been deemed appropriate to support the manufacturers stated design and is summarised in the Supporting data section of this report.

The defined scope presented in this assessment report relates to the behaviour of the proposed design under the particular conditions of the test; they are not intended to be the sole criterion for assessing the potential fire hazard of the assemblies in use.

This report has been prepared and checked by product assessors with the necessary competence, who subscribe to the principles outlined in the Passive Fire Protection Forum (PFPF) 'Guide to Undertaking Technical Assessments of the Fire Performance of Construction Products Based on Fire Test Evidence - 2021'. The aim of the PFPF guidelines is to give confidence to end-users that assessments that exist in the UK are of a satisfactory standard to be used for building control and other purposes.

Test evidence from overseas laboratories has also been considered as supporting evidence for the designs in this assessment report. The test evidence is from a laboratory that has been accredited by a national accreditation body that is a signatory of the International Laboratories Accreditation Co-operation (ILAC).

Executive Summary

Objective This report provides an appraisal of the fire resistance performance of a previously tested sliding pocket doorset, complete with modifications, if subjected to a fire resistance test in accordance with BS EN 1634-1: 2014+A1 2018.

Report Sponsor **S.A. HERRAJES DE CORREDERA (SAHECO)**

Address Ellmunt 104
P-I La Foradada
08580
St.Quirze de Besora
Barcelona
Spain

Summary of Conclusions Should the recommendations given in this report be followed, it can be concluded that previously fire tested timber sliding pocket doorsets which have achieved up to 30 minutes integrity and insulation (I₂) in accordance with BS EN 1634-1: 2014+A1 2018, may be modified as discussed in this report, without detracting from the overall integrity performance (and insulation where relevant) of the doorset.

This assessment represents our opinion as to the performance likely to be demonstrated on a test in accordance with BS EN 1634-1: 2014+A1 2018, based on the evidence referred to herein. We express no opinion as to whether that evidence, and/or this assessment, would be regarded by any Building Control authority as sufficient for that or any other purpose. This assessment is provided to the client for its own purposes, and we cannot opine on whether it will be accepted by Building Control authorities or any other third parties for any purpose.

Valid until 16th October 2028

This report may only be reproduced in full. Extracts or abridgements of reports shall not be published without permission of Warringtonfire. All work and services carried out by Warringtonfire Testing and Certification Limited are subject to, and conducted in accordance with, the Standard Terms and Conditions of Warringtonfire Testing and Certification Limited, which are available at <https://www.element.com/terms/terms-and-conditions> or upon request.

Introduction

This report provides an appraisal of the fire resistance performance of a previously tested sliding pocket door system, but modified to permit the reduction of doorset size, the substitution of a recessed pull handle and the option or the inclusion for the doorset to be supplied with or without “soft close” system, if subjected to a fire resistance test in accordance with BS EN 1634-1: 2014+A1 2018 providing a fire resistance performance of 30 minutes.

FTSG/PFPF

The data referred to in the supporting data section has been considered for the purpose of this appraisal which has been prepared in accordance with the Fire Test Study Group Resolution No. 82: 2001 and the Passive Fire Protection Federation (PFPF) Guide to Undertaking Technical Assessments of Fire Performance of Construction Products Based on Fire Test Evidence - 2021.

Assumptions

General Construction

It is assumed that the general construction of the timber sliding pocket door system and the materials used in the construction will, unless specifically detailed in this report, be identical to those of the respective tested assembly. The doorsets shall also be considered in a similar manner.

It is assumed that the sliding doorset will be in the fully closed position. To restrain the door in the closed position the Self-Close -99692026 mechanism will be required to be used.

Supporting wall

It is also assumed that the construction of the wall, which supports the proposed doorsets, shall be the minimum specification as tested. The elements of the construction (stud depth, gypsum boards, mineral wool) may be increased, if the wall construction has been the subject of a separate test and the performance of the wall is such that it will not influence the performance of the doorset for the required period.

Clearance gaps

Door leaf to wall clearance gaps can have a significant effect on the overall fire performance. The clearance between the door leaf and wall/sliding mechanism should remain as tested. In addition, it is assumed that the door leaf will be in the closed position.

Installation

It is assumed that the doorset will be installed by competent installers in a similar manner to that used when installing the fire tested assembly.

Proposals

Alternative sizes

It is proposed that the timber sliding pocket door system previously tested may be reduced in size in accordance with this report and be able to continue to satisfy the integrity and insulation (I_2) performance criteria of BS EN 1634-1: 2014+A1 2018 for a period of 30 minutes.

The sizes proposed are as follows:

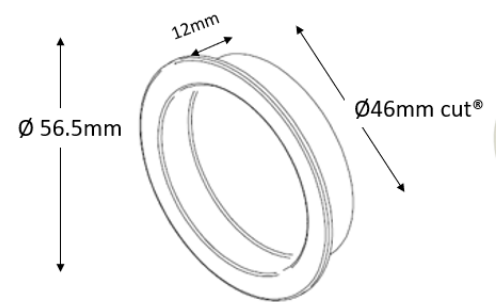
- 1981 x (610/686/762/838/914) x 44 mm
- 2040 x (626/726/826/926/1026) x 44 mm

Alternative Hardware

It is proposed that the timber sliding pocket door system previously tested may be fitted with alternative recessed pull handles in accordance with this report and be able to continue to satisfy the integrity and insulation (I_2) performance criteria of BS EN 1634-1: 2014+A1 2018 for a period of 30 minutes. It is further proposed that the location of the recessed pull handles be moved to 100 mm away from the edge of the door leaf.

The alternative recessed pull handles all have the same dimensions and either have the same fundamental material (Brass) or are manufactured out of steel, the same size and are available in a range of finishes outlined below:

- 99692030 – Brushed brass
- 99692031 – Chrome plated
- 99692032 - Satin Chrome plated

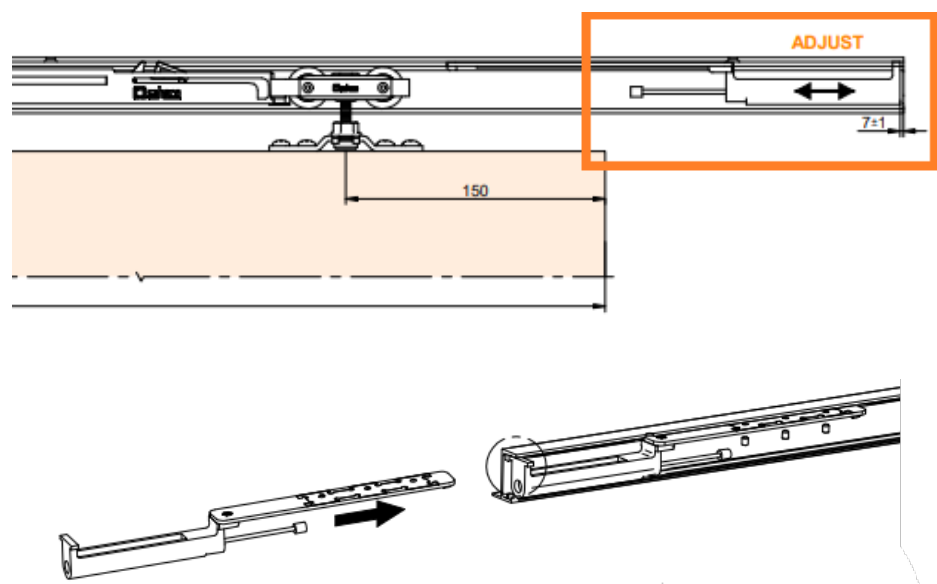


Optional Extra's

It is further proposed that the timber sliding pocket door system previously tested may be fitted with or without the "soft close" system in accordance with this report and be able to continue to satisfy the integrity and insulation (I_2) performance criteria of BS EN 1634-1: 2014+A1 2018 for a period of 30 minutes.

The soft close option is an accessory that is an optional extra for the doorset.

It is fitted along the top track system of the pocket doorset, and its purpose is to reduce the force applied when shutting the door on the last 10 cm of the door closing the soft close mechanism activates reducing the force thus avoiding 'slamming' and potential damage to the doorset.



Basic Test Evidence

22/32301569 (EN)

The test referenced 22/32301569 (EN) is the English version of report 22/32301569. The test 22/32301569 (EN) is briefly described in the supporting section data section of this report, describes a test conducted in accordance with EN 1634-1: 2014+A1: 2018 which included a timber sliding doorset with a single leaf.

The test demonstrated the ability of the doorset to provide 28 minutes I_1 insulation, 30 minutes I_2 insulation and 30 minutes integrity performance.

Assessed Performance

The test report no 22/32301569 (EN) was performed in accordance with EN 1634-1: 2014 + A1: 2018 and demonstrated the ability of the "99692021 OPTIMO REVER POCKET DOOR SET 1200X2310X100/125 + 99692024 LINER KIT FD30 2500X1200X44MM + 99692026 SELFCLOSE FD30" single leaf timber sliding pocket doorset to provide 30 minutes integrity performance.

The leaf had overall dimensions of 1200 x 2300 x 44 mm thick with a clear opening of 1055 x 2270 mm high. The leaf comprised of a graduated density chipboard core surrounded by a sapele stile and rail perimeter framework, between the perimeter framework and core there was a 15 x 2.5 mm graphite intumescent strip. 5 mm MDF panel were fitted to either face. The clear opening was fitted with intumescent fire seals around the perimeter. The doorset was operated on rollers hidden internally within the supporting construction. A circular recessed brass pull handle was fitted to either face, back to back at 1050 mm from the base of the door, the base of each of the recessed pull handles was lined with 2.5 mm Pyroplex intumescent strips. The single leaf timber sliding pocket doorset included the soft close option.

The single leaf timber sliding pocket doorset was fitted within a flexible supporting construction consisting of a 100 mm steel 'C' stud framework with a single layer of 12.5 mm gypsum plasterboard fitted to either side infilled with 50 mm mineral wool. The supporting construction is classed as EI30 Group C. The perimeter framework of the pocket doorset is clad in a single layer of 12.5 mm gypsum plasterboard to either face.

Upon review of the observations taken from the test report, it has been noted that there was an I_1 insulation failure at 28 minutes and an I_2 insulation and integrity failure at 30 minutes, with the test being discontinued at 31 minutes. The I_1 insulation failure was associated with the additional thermocouples required in accordance with the supplementary procedures of BS EN 1634-1: 2014 + A1: 2018.

Alternative sizes

The previously fire tested doorset has demonstrated its ability to satisfy the integrity performance criteria for a period of 30 minutes. This results in 'Category A', tests without overrun as defined in EN 1634-1: 2014+A1: 2018. This automatically permits an unlimited decrease in leaf size as stipulated in Annex B (Table B.1) in EN 1634-1: 2014+A1: 2018.

The vertical and upper edges of the door leaf are concealed within the wall construction and are therefore restrained under fire test conditions and should not therefore be susceptible to deformation regardless of the permitted size decrease. However, because the edges are concealed within the wall construction the same amount of material, regardless of decrease in leaf size, shall be concealed in the wall construction as the tested doorset in 22/32301569 (EN). This is to ensure the same amount of restraint is retained on smaller sizes to ensure that there is no increase in deformation.

Although unlimited decreases in leaf size is permitted in EN 1634-1: 2014+A1: 2018, the internal composition and thickness of the materials used shall not be modified and shall be as tested, ensuring that the thickness of the door leaf shall always be 44 mm.

The permitted sizes in line with the recommendations above are as follows:

- 1981 x (610/686/762/838/914) x 44 mm
- 2040 x (626/726/826/926/1026) x 44 mm

On this basis it is considered that the leaf sizes outlined above are positively appraised and would not be expected to reduce the 30 minute integrity fire resistance performance of the timber sliding pocket doorset if the same amount of concealed material is retained and the overall composition of the door leaf is not modified.

Alternative Hardware

Upon review of the of the observations within test report 22/32301569 (EN) there was no integrity failures associated with any of the brass flush pulls fitted to the timber sliding pocket doorset for the duration of the test.

All of the proposed models have the same dimensions and either the same base material or a base material with a higher melting point, as the tested handles. The steel handles in the proposed range are considered to be less onerous due to the higher melting point; therefore, it is in this case the brass handle which is considered the most vulnerable because of the lower melting point when compared to steel. It is therefore reasonable to assume that providing the same level of intumescent protection is applied, (base of the recessed pull handle is lined with 2.5 mm Pyroplex intumescent strips, as shown below) the handles will not reduce the performance of the timber sliding pocket doorset.



The proposed alternative circular brass recessed pull hands are supplied in a range of applied finishes e.g., brushed brass, chrome plated, and satin chrome plated. The change of finish from that originally tested is not considered to have any negative influence on the performance of the hardware when used in the proposed applications because the fundamental material does not change. The proposed hardware with an alternative finished are positively appraised.

The tested protection was 2.5 mm graphite Pyroplex intumescent strips, however, empirical data suggests that the performance of mono ammonium phosphate sheet material is seen as equal in applications where it's designed to protect insulated morticed hardware from the surrounding cellulosic material. Where mono ammonium phosphate is to be used in lieu of 2.5 mm graphite Pyroplex intumescent strips, the proposed material shall have been tested in the required thickness.

The proposed location of the recessed pull handle may be altered, to permit the handles to be fitted at 100 mm below or above the height of the handle as tested (1050 mm). The increase in height in conjunction with the more onerous conditions at 100 mm is expected to be negligible, as the pressure differential will be 0.85 Pa more, the decrease in height is also considered acceptable because the handle will be subject to less onerous conditions.

The handle can also be moved laterally as the handle will not be subject to more onerous conditions, however in both instances of vertical and horizontal movement the installation of the handle must not remove any internal framing components (Stiles) of the doorset which may affect the stability of the door leaf.

The permitted handles in line with the recommendations above are as follows:

- 99692030 – Brushed brass
- 99692031 – Chrome plated
- 99692032 – Satin Chrome plated

On this basis it is considered that the alternative handles outlined above are positively appraised and would not be expected to reduce the 30 minute integrity and insulation (I₂) fire resistance performance of the timber sliding pocket doorset if the installation of the handle does not remove any internal framing components as well as the base of the recessed pull handle is lined with 2.5 mm Pyroplex.

Optional Extra's

The tested assembly within 22/32301569 (EN) incorporated the soft close option. The option is incorporated internally within the door frame and is concealed within the wall cavity. The removal of this option is not considered to have a detrimental effect upon the fire resistance performance of the doorset.

The removal of this option would reduce the amount of material and components within the door frame, and because the components are generally metal this would reduce the amount of heat sync at those particular areas therefore this would be expected to have a positive effect upon the doorset.

Therefore, the removal of the optional extras, soft close is positively appraised and would not expect to reduce the 30 minute integrity and insulation (I₂) fire resistance performance of the timber sliding pocket doorset.

Conclusions

Should the recommendations given in this report be followed, it can be concluded that the timber sliding pocket door system which has achieved up to 30 minutes integrity and insulation (I_2) performance in accordance with BS EN 1634-1:2014+A1:2018 may be modified as detailed in this report without detracting from the overall integrity performance of the doorset.

This report represents our opinion as to the performance likely to be demonstrated on a test in accordance with BS EN 1634-1:2014+A1:2018, on the basis of the test evidence referred to in this report. We express no opinion as to whether that evidence, and/or this report would be regarded by any Building Control authorities or any other third parties as sufficient for that or any other purpose.

Validity

This assessment is issued on the basis of test data and information available at the time of issue. If contradictory evidence becomes available to **Warringtonfire** the assessment will be unconditionally withdrawn and **S.A. HERRAJES DE CORREDERA (SAHECO)** will be notified in writing. Similarly the assessment is invalidated if the assessed construction is subsequently tested because actual test data is deemed to take precedence over an expressed opinion. The assessment is valid initially for a period of five years i.e. until 16th October 2028, after which time it is recommended that it be returned for re-appraisal.

The appraisal is only valid provided that no other modifications are made to the tested construction other than those described in this report.

This assessment report is not valid unless it incorporates the declaration given below duly signed by the applicant.

Summary of Primary Supporting Data

**22/32301569
(EN)**

A fire resistance test in accordance with EN 1634-1: 2014 + A1: 2018 on a single leaf timber sliding pocket doorset. The test was performed at Applus Laboratories (LGAI Technological Center, S.A.) Barcelona, Spain.

For the purpose of the test the doorset the single leaf timber sliding pocket doorset was referenced as "99692021 OPTIMO REVER POCKET DOOR SET 1200X2310X100/125 + 99692024 LINER KIT FD30 2500X1200X44MM + 99692026 SELFCLOSE FD30".

The leaf had overall dimensions of 1200 x 2300 x 44 mm thick with a clear opening of 1055 x 2270 mm high. The leaf comprised of a graduated density chipboard core surrounded by a sapele stile and rail perimeter framework, between the perimeter framework and core there was a 15 x 2.5 mm graphite intumescent strip, 5 mm MDF panel was fitted to either face. The clear opening was fitted with intumescent fire seals around the perimeter. The doorset was operated on rollers hidden internally within the supporting construction. The recessed brass pull handle was fitted to either face opposite each other at 1050 mm from the base of the door, the base of the recessed pull handle was lined with 2.5 mm Pyroplex intumescent strips. The single leaf timber sliding pocket doorset included the soft close and self close options.

The single leaf timber sliding pocket doorset was fitted within a flexible supporting construction consisting of a 100 mm steel 'C' stud framework with a single layer of 12.5 mm gypsum plasterboard fitted to either side infilled with 50 mm mineral wool. The supporting construction is classed as EI30 Group C.

Prior to the commencement of the test, the door leaf was cycled open and close 25 times which the self closing test did not exceed the maximum average speed as specified in WN14600:2005.

	Doorset
Integrity	30
Insulation (I₁)	28
Insulation (I₂)	30

The test was discontinued after a period of 31 minutes.

Warringtonfire was not involved in any selection or sampling procedures of the specimen or any of the components.

Test date : 30th March 2022

Test sponsor : S.A. HERRAJES DE CORREDERA (SAHECO)

Declaration by S.A. HERRAJES DE CORREDERA (SAHECO)

We the undersigned confirm that we have read and comply with obligations placed on us by the Passive Fire Protection Forum (PFPF) Guide to undertaking technical assessments and engineering evaluations based on fire test evidence 2021 Industry Standard Procedure

We confirm that any changes to a component or element of structure, which are the subject of this assessment, have not to our knowledge been tested to the standard against which this assessment has been made.

We agree to withdraw this assessment from circulation should the component or element of structure, or any of its component parts be the subject of a failed fire resistance test to the standard against which this assessment is being made.

We understand that this assessment is based on test evidence and will be withdrawn should evidence become available that causes the conclusion to be questioned. In that case, we accept that new test evidence may be required.

We are not aware of any information that could affect the conclusions of this assessment. If we subsequently become aware of any such information, we agree to ask the assessing authority to withdraw the assessment.

(In accordance with the principles of FTSG Resolution 82:2001)

Signature:

Name:

Position:

Date:

For and on behalf of:

Limitations

The following limitations apply to this assessment:

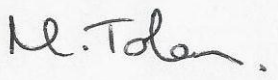
We confirm that any changes to a component or element of structure which are the subject of this assessment have not to our knowledge been tested to the standard against which this assessment has been made.

We agree to withdraw this assessment from circulation should the component or element of structure, or any of its component parts be the subject of a failed fire resistance test to the standard against which this assessment is being made.

1. This report addresses itself solely to the elements and subjects discussed and do not cover any other criteria or modifications. All other details not specifically referred to should remain as tested or assessed.
2. This report is issued on the basis of test data and information to hand at the time of issue. If contradictory evidence becomes available to Warringtonfire, the assessment will be unconditionally withdrawn, and the applicant will be notified in writing. Similarly, the assessment evaluation is invalidated if the assessed construction is subsequently tested since actual test data is deemed to take precedence.
3. This field of application has been carried out in accordance with Fire Test Study Group Resolution No. 82: 2001.
4. Opinions and interpretation expressed herein are outside the scope of UKAS accreditation.
5. This field of application relates only to those aspects of design, materials and construction that influence the performance of the element(s) under fire resistance test conditions against the ISO 834 time/temperature curve that is stipulated in the standard this assessment concludes to. It does not purport to be a complete specification ensuring fitness for purpose and long-term serviceability. It is the responsibility of the client to ensure that the element conforms to recognised good practice in all other respects and that, with the incorporation of the guidance given in this field of application, the element is suitable for its intended purpose.
6. This report represents our opinion as to the performance likely to be demonstrated on a test in accordance with EN1634-1, on the basis of the test evidence referred to in this report. We express no opinion as to whether that evidence, and/or this report would be regarded by any Building Control authorities or any other third parties as sufficient for that or any other purpose.
7. This report may only be reproduced in full. Extracts or abridgements of reports shall not be published without permission of Warringtonfire. All work and services carried out by Warringtonfire Testing and Certification Limited are subject to, and conducted in accordance with, the Standard Terms and Conditions of Warringtonfire Testing and Certification Limited, which are available at <https://www.element.com/terms/terms-and-conditions> or upon request.
8. The version/revision stated on the front of this report supersedes all previous versions/revisions and must be used to manufacture the assessed systems from the stated validity date on this front cover. Previous revisions of the report cannot be used once an updated report has been issued under a new revision.

Signatories


Responsible Officer A.Green-Morris* - Product Assessor


Approved M.Tolan* - Senior Product Assessor


Approved A.Kearns* - Technical Manager

* For and on behalf of Warringtonfire

Report Issued: 23 rd October 2023
--

The assessment report is not valid unless it incorporates the declaration duly signed by the applicant.

This copy has been produced from a .pdf format electronic file that has been provided by Warringtonfire to the sponsor of the report and must only be reproduced in full. Extracts or abridgements of reports must not be published without permission of Warringtonfire. The pdf copy supplied is the sole authentic version of this document. All pdf versions of this report bear authentic signatures of the responsible Warringtonfire staff.

All work and services carried out by Warringtonfire Testing and Certification Limited are subject to, and conducted in accordance with, the Standard Terms and Conditions of Warringtonfire Testing and Certification Limited, which are available at <https://www.element.com/terms/terms-and-conditions> or upon request.

Revision History

Issue No: 1	Issue Date: 23 rd October 2023
Written By: A. Green-Morris	Approved By: M.Tolan & A.Kearns

Issue No:	Re-issue Date:
Revised By:	Approved By:
Reason for Revision:	